

## **Code 923 Highlights for March – April 2003**

### **\*\* Front Cover of Photogrammetric Engineering and Remote Sensing, March 2003 issue highlights R. Nelson's work**

The front cover of the March 2003 issue of Photogrammetric Engineering and Remote Sensing illustrates a profiling laser trace acquired over forest and field in Delaware by the GSFC/Portable Airborne Laser System. The laser profile and the aircraft used to acquire the laser data statewide overlays a color-infrared photo of the local terrain. Beth Nelson (SSAI/923) produced the front cover. Ross Nelson (923), Jess Parker (Smithsonian Environmental Research Center), and Milton Hom (923/SSAI) wrote the article in the March issue which describes the laser system and data attributes.

Reference: Nelson, R., G. Parker, and M. Hom. 2003. A Portable Airborne Laser System for Forest Inventory. Photogrammetric Engineering and Remote Sensing 69(3): 267-273.

### **\*\* EOS Transactions, AGU highlights research by AERONET group (A. Smirnov et al.)**

EOS Transactions, AGU of 14 January 2003 in the Journal Highlights section highlighted the work of the AERONET group of Code 923. The following is the extracted highlight of that research.

#### **“Aerosol concentration varies during the day”**

Aerosol concentrations can vary significantly over the course of a day near source regions over the land, which can exacerbate pollution and influence human health and the climate. Smirnov et al. analyzed nearly 10 years of aerosol measurements from a global network and suggests that the daily cycle of local sources of aerosols, like biomass burning and industrial emissions, cause a diurnal trend in the pollutant optical depth. Their survey, however, found very little diurnal change over the oceans. The authors studied the variability of airborne aerosols over wide swaths of the United States, South America, and Africa, noting up to a 40% increase in the optical depth of aerosols during the daytime and most prevalent in the afternoons for urban sites.

Reference: A. Smirnov (Code 923), B.N. Holben (Code 923), T.F. Eck (Code 923), I. Slutsker (Code 923), B. Chatenet, and R.T. Pinker, Diurnal variability of aerosol optical depth observed at AERONET (Aerosol Robotic Network) sites, Geophys.Res.Lett.,10 December 2002, doi:10.1029/2002GLO16305.

### **\*\* Paper by A. Anyamba, (Code 923), K. J. Linthicum, R. Mahoney (Code 923), and C. J. Tucker (Code 923) was selected as first place recipient of 2003 John I. Davidson Award for Practical Papers**

Terrence Keating, President of the American Society for Photogrammetric Engineering and Remote Sensing (ASPRS) announced that the paper by A. Anyamba, K. J. Linthicum, R.

Mahoney, and C. J. Tucker, "Mapping Potential Risk of Rift Valley fever outbreaks in African Savannas using Vegetation Index Time Series Data", was selected as the first place recipient of the 2003 John I. Davidson Award for Practical Papers. The award consists of a pewter tankard (the practical part) and a cash award. Presentation of the award will be during the ASPRS 2003 Annual Conference in Anchorage, Alaska, May 5-9, 2003.

Reference: Anyamba, A., K. J. Linthicum, R. Mahoney, and C. J. Tucker, "Mapping Potential Risk of Rift Valley fever outbreaks in African Savannas using Vegetation Index Time Series Data, Photo. Eng. Rem. Sens.: Special Issue Remote Sensing and Human Health, 68(2): 137-145, 2002.

#### **\*\* First DSCAL maneuver for Terra successful**

The first DSCAL maneuver for Terra was successfully performed. Spacecraft and all instruments are nominal. The important calibration data was downloaded (twice) and received by the instrument teams. Preliminary analysis shows no adverse effects on the instruments and that the data are useful for calibration purposes, especially MODIS and CERES.

The EOS Terra Flight Operations, Instrument Operations, and Spacecraft Engineering Teams executed the maneuver expertly and flawlessly and deserve a huge thank you from the Terra Science community.

#### **\*\* Second Terra Deep Space Calibration Maneuver successful**

The second Terra Deep Space Calibration Maneuver was successfully performed on April 14, 2003. This maneuver was designed to allow MODIS, ASTER and MISR cameras to view the sunlit lunar disk primarily for radiometric characterization purposes. Images released by the instrument teams shortly after maneuver confirmed that each of the three instruments acquired data of the moon. Deep space cross track and biaxial scanner data were also acquired by CERES. Data analysis is proceeding to evaluate the quality of the data for meeting the maneuver objectives. A possible third maneuver will be planned and conducted based on the results of the first two, likely within the next six months. Thanks to all the Terra Flight Operations, Instrument Operations and System Engineering Teams that made these two maneuvers an outstanding success.

#### **\*\* NASA participates in the 11th Brazilian Remote Sensing Symposium April 5-10, 2003 (<http://www.ltid.inpe.br/sbsr2003>)**

Goddard participation at the symposium included chairing a day-long workshop on fire monitoring in Brazil, a plenary presentation on NASA's Earth Science Enterprise, and a special session on the LBA-Airborne campaign. The fire workshop was chaired and organized by Jeff Morisette (Code 923/922) and his Brazilian LBA collaborator, Wilfrid Schroeder. It brought together researchers interested in the use of satellite technologies to study fire, burned area, and emissions throughout the Amazon region. The workshop started with an overview of current fire monitoring activities and user perspectives. The formal presentations were then

followed by open discussion on future directions. The meeting was attended by regional experts (Alberto Setzer, João Pereira, Foster Brown) and approximately 100 participants from the symposium. The NASA ESE presentation was given by Jeff Morisette on behalf of Diane Wickland and allowed NASA representation in the session on International Space Remote Sensing Programs. Peter Griffith (Code 923) helped organize the special meeting on LBA-Air-ECO, which took advantage of the availability of symposium participants to further arrangements for NASA Airborne Science in the Large Scale Biosphere-Atmosphere Experiment in Amazonia.

**\*\* Jon Ranson (Code 923) attended the Technical Program Committee meeting in Orlando, FL on February 28 to prepare for the IGARSS 2003 Conference which will be held in Toulouse, France July 21-25, 2003.** Approximately 2500 abstracts were organized into about a dozen sessions by the committee.

**\*\* Web Site selected as a "Best Bet" on the USA TODAY Education Web site**

The Soil Science Education Web Site developed by Dr. Elissa Levine, Izolda Trakhtenberg and Terry Aquino (<http://soil.gsfc.nasa.gov>) has been selected as a "Best Bet" on the USA TODAY Education Web site April 15-28, 2003. Each week the USA TODAY Education online staff selects three "Best Bet" sites they feel would be of educational value to their audience of subscribers and guests. These sites are listed on the USA TODAY Education home page with a brief description and a link to the site. Fewer than 150 sites are selected each year as USA TODAY Education "Best Bet" Web sites.

**\*\* E. Levine gives presentation to Revitalizing Baltimore Committee**

Dr. Elissa Levine gave a presentation on the "Baltimore Children's Asthma Project" to the Revitalizing Baltimore Committee at the Parks and People Foundation in Baltimore on March 12. The Revitalization committee is a technical group composed of Federal, State, and City agencies and non-profit organizations who have an interest in managing and maintaining the health of Baltimore communities. Participants included personnel from the City and County of Baltimore, DNR, USDA Forest Service, USGS, Baltimore Ecosystem Study, and others. The presentation met with a great deal of interest and discussion towards future collaboration including a meeting planned to identify resources and common research interests with the broader community which the "Revitalizing Baltimore" Committee represents.

**\*\* Ross Nelson Wins Community Service Award**

The Baltimore Federal Executive Board has selected Ross Nelson for a Community Service Award for Ross' thousands of hours of volunteer service as a Paramedic for Laurel Fire and Rescue. Baltimore Mayor Martin O'Malley will present a plaque to Ross at the Board's annual award ceremony scheduled for May 02 at the Martin's West facility in Baltimore.

**\*\* Dr. Levine interviewed and filmed for a Soils educational video**

Elissa Levine was interviewed and filmed for an educational video on Soils which is part of a series of Earth Science education for K-6 students. The series was created by the Harvard Smithsonian Center for Astrophysics Science Media Group to be produced for an Annenberg/CPB Channel broadcast to be aired across the US this summer or fall.

**\*\* Kimes gives lecture at Johns Hopkins School of Public Health**

Dr. Dan Kimes gave a lecture on "Assessing links between Environmental Factors and Childhood Asthma in Maryland" at Johns Hopkins School of Public Health on April 11. His talk discussed the tools that he has developed to integrate environmental, health and satellite data to address public health needs. About fifty people attended including professors and students at JHU and state health workers. Several professors and students showed an interest in cooperative work and collaborative internships.

**\*\* Dr. Levine participates in "Mosaic Roundtable" panel presentation discussing Air Quality and Human Health**

Dr. Elissa Levine will be part of the "Mosaic Roundtable" panel presentation discussing "Air Quality and Human Health in Baltimore" at UMBC on Wednesday April 23 from 1-3PM. The Mosaic roundtable is sponsored by the Interdisciplinary Studies Program at UMBC and was established in fall 2001 to promote discussion and debate across the disciplines about important issues impacting global citizens. In addition to Dr. Levine, Roundtable participants include Dr. Royce Hanson, visiting professor of policy sciences and interim director of the Center for Urban and Environmental Research and Education; Dr. Raymond Hoff, professor of physics and director of the Joint Center for Earth Systems Technology; and Dr. Virginia McConnell, professor of economics.